

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed September 10, 2004. At the time of the Office Action, Claims 1-20 were pending in this Application. Claims 1-20 were rejected. Claims 1, 11, and 15 have been amended to further define various features of Applicants' invention.

Rejections under 35 U.S.C. §102

Claims 1-20 were rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,173,005 issued to Michael D. Kotzin et al. ("Kotzin et al.").

Applicants respectfully traverse and submit that the invention taught by Kotzin is easily distinguishable from the invention claimed by Applicants.

In the first place, Kotzin is not directed to GPS receivers or to any aspect of GPS systems. The teachings of Kotzin are directed to cellular telephone systems (CDMA). Kotzin teaches supplementing the multiple transmissions received and processed by a rake receiver in a mobile unit of a cellular system for the purpose of improving signal reception of the mobile unit. The receiver is modified to receive a new and different CDMA signal

There are not many similarities between the data streams used by CDMA wireless communications systems and GPS systems.

Independent Claims 1, 11, and 15 each recite "a GPS receiver" in the preamble. Claims 1 and 11 recite "only GPS hardware". Claim 15 is an improvement to a GPS receiver that does not include any hardware changes. The method of the present invention is directed to modifying a GPS receiver's software to receive secondary data. The secondary data has general-purpose application that may or may not be related to improving signal reception. The secondary data is injected into the GPS communication system using transmitters that are not normally a part of the GPS system.

A novel aspect of the present invention is the manipulation of the existing GPS communication architecture, by delivering the secondary data in a GPS-like format. The same hardware, spreading codes, and communications system as is used for normal GPS signaling is used for the secondary data. The only changes are to the payload of the existing GPS data format and to the software of the GPS receiver.

Even if it is assumed that the cell phone receivers of Kotzin are analogous to the GPS receivers of the present invention, the teachings of Kotzin do not anticipate, or make obvious, the claims of the present invention.

Although Kotzin controls a mobile receiver to search for a specified system frequency and demodulate it, in general, any CDMA receiver does this. The Kotzin et al method relies on transmitting a secondary data signal in portions from multiple antennas. Our system uses a single antenna to transmit the entire message.

Claims 1 - 10

In Claim 1 as amended, the GPS receiver searches for “a GPS spreading code”. Claim 1 further recites that the secondary data signal conforms to the frequency and data rate characteristics of a GPS signal. Claim 1 recites a secondary data signal in which all data is received sequentially as a single transmission on a single spreading code.

In contrast, Kotzin teaches the use a data splitter to divide channel data (Col. 2, lines 32-35). These signals that have new and different characteristics, which include transmitting different portions of the signal on different, orthogonal spreading codes. Kotzin assigns the additional orthogonal spreading codes to improve forward link transmit diversity.

Claim 1 recites that the spreading code is a GPS spreading code. That is, the spreading code is already within the GPS system. It is not a new spreading code, not already in the CDMA system, as taught by Kotzin.

Claim 1 further recites that the secondary data signal has the same data rate as a GPS signal. The division of the signal into portions, as taught by Kotzin, does not result in “the same data rate”.

Claim 1 also recites specific limitations with regard to the format of the secondary data signal. Kotzin does not teach or suggest the use of a GPS signal for carrying secondary data within GPS format subframes.

For these reasons, Kotzin neither anticipates, or makes obvious, the invention of Claim 1. Claim 1 is allowable, as are dependent Claims 2 - 10.

Claims 11 - 20

Independent Claims 11 and 15 have been amended in a manner similar to the amendment of Claim 1. The GPS receiver searches for "a GPS spreading code". Also, these claims contain the same limitation regarding the GPS format of the secondary data.

For the reasons stated above in connection with Claims 1 - 10, Claims 11 - 20 are also allowable.

Information Disclosure Statement

Applicants would like to bring to the Examiner's attention that Applicants filed an Information Disclosure Statement on April 14, 2004. Applicants respectfully request that the Information Disclosure Statement be considered and cited in the examination of the above-referenced application. Applicants attach a copy of the Information Disclosure Statement and PTO Form 1449 filed April 14, 2004 for the Examiner's convenience and a copy of the postcard receipt evidencing receipt by the Patent Office.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of all pending claims, as amended.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees to Deposit Account No. 50-2148 of Baker Botts L.L.P. in order to effectuate this filing.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2634.

ATTORNEY DOCKET
090936.0517

PATENT APPLICATION
10/789,757

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Respectfully submitted,

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Date: December 9, 2004



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Inventor(s): Jennifer L. Alvarez et al. Serial No.: 10/789,757

Title: *A Method for Delivering Secondary (Non-Location) Data to a GPS
Receiver*

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